

XVI.—*Descriptions of new Species of Eratina from Tropical South America.* By HERBERT DRUCE, F.L.S. &c.

LATELY having had occasion to arrange the genus *Eratina* and allied groups for the 'Biologia,' I find that I have a large number of undescribed species in my collection from various localities in tropical South America, many of them from Ecuador collected by the late Mr. Buckley, to which are added those received from other collectors during the past few years. The species have all been compared with the types in the National Museum and those in the Saunders collection now in the Oxford Museum.

I believe it will be necessary to divide the genus at some future time when more material is available for examination; but at present many of the species are so rare that it is impossible to do so.

*Eratina artemisia*, sp. n.

*Male*.—Primaries dark brown, the basal half the palest; a curved white band crosses the wing beyond the middle very similar in shape to one crossing the primaries in *E. undulata*, but considerably wider: secondaries dusky white, broadly bordered with blackish brown, the fringe black, with four white spots on the outer side and one on the inner margin just above the anal angle. The underside of the primaries pale yellowish brown, with the line crossing the wing much more extended, reaching from the costal margin to the inner margin close to the anal angle; a large silky white patch extends from the base nearly to the white line; a small white line at the end of the cell and a round white spot in the cell nearer the base: secondaries greyish white, irrorated with yellowish-brown scales, the outer margin broadly bordered with yellowish brown; the fringes as above. The head, antennæ, thorax, and abdomen dark brown, the latter banded with fine white lines, the anal tuft yellow; the legs, underside of the thorax, and abdomen greyish white.

*Female*.—Primaries very like those of the male, but shaded with reddish brown on each side of the white line and broadly on the inner margin: the secondaries differ from those of the male in being almost uniformly dusky brown, with a very faint, zigzag, greyish-white line extending from the costal margin to the inner margin. The underside is very similar to the male, but considerably more red in colour.

Expanse, ♂  $1\frac{3}{4}$ , ♀ 2 inches.

*Hab.* Ecuador, Intij, Sarayacu, Chiguinda (*Buckley, Mus. Druce*).

This species is allied to *E. goniuris*, Feld. & Rog.

*Eratina mecyra*, sp. n.

*Male.*—Primaries blackish brown, crossed beyond the middle by a semihyaline yellowish-white band that does not reach the costal or inner margin; the fringe brownish black: secondaries brownish black, darkest round the outer margin; a narrow yellowish-white line extends from near the apex of the costal margin almost to the anal angle; the fringe alternately yellowish white and brown. The underside of the primaries reddish brown, streaked with yellow and reddish brown at the base, the yellowish-white band more distinct than above, and a submarginal white line extending from near the apex to the anal angle: secondaries white, streaked with red and yellow, the outer margin dark brown, the fringe the same as above. The head, thorax, and abdomen above dark brown, the latter white on the underside and banded with very narrow yellow lines; the antennæ brown and the legs greyish brown.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Colombia, Antioquia, Frontino (*Salmon, Mus. Druce*).

*Eratina rhesa*, sp. n.

*Male.*—Primaries dark brown, partly crossed beyond the middle by a whitish hyaline band, which becomes wider as it extends to the inner margin, the fringe alternately brown and white: secondaries brown, palest at the base and along the inner margin; a large red spot on the inner margin slightly above the anal angle; the fringe alternately brown and white. Underside: primaries reddish brown, thickly irrorated with yellow scales; the white hyaline band crossing the wing beyond the middle is more distinct, and a wavy, submarginal, yellow line extends from the costal margin near the apex to the anal angle: secondaries brown, streaked with yellow and white. The head, thorax, and abdomen dark brown, the collar yellow, the anus reddish brown; antennæ and legs greyish brown.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Bolivia (*Buckley, Mus. Druce*).

*Eratina medama*, sp. n.

*Male*.—Primaries dark brown, slightly greyish at the base; a wide yellowish hyaline band crosses the wing beyond the middle from the costal margin almost to the anal angle, but not reaching it, the band is widest just above the anal angle; the fringe alternately brown and white: secondaries dark brown, crossed about the middle from the costal margin to the anal angle by a straight, rather wide, yellowish hyaline line, below which on the anal angle is a red spot; the fringes alternately brown and white. Underside: primaries reddish brown, with the band crossing the wing considerably wider than on the upperside; a submarginal yellowish-white wavy line extends from the costal margin near the apex to inner margin, where it almost joins the inner band; the base of the wing is streaked with yellowish white: secondaries reddish brown, the veins mostly yellowish white from the base to about the middle; a rather wide central pale yellow band, bordered on the outer side with deep red, crosses the middle of the wing from near the costal margin to the anal angle; a large orange-coloured spot close to the anal angle; the fringe of the primaries brown, that of the secondaries alternately brown and white. The head, thorax, antennæ, and legs dark brown; the abdomen brown, banded with fine white lines.

Expanse 2 inches.

*Hab.* Ecuador, Intij (*Buckley, Mus. Druce*).

This species is allied to *E. mecyra* from Colombia, but the secondaries are considerably broader and not tailed as in that insect.

*Eratina aroma*, sp. n.

*Male*.—Primaries dark brownish black, partly crossed about the middle with a semihyaline band; the fringe alternately brown and white: secondaries brownish black, crossed about the middle by a wide pale primrose-coloured band; a bright red spot close to the anal angle; the fringe alternately white and black. Underside: primaries dark reddish brown, palest on the outer margin; a rather wide submarginal yellowish line extends from the costal margin near the apex to the anal angle; the semihyaline band is more distinct, reaching the costal and inner margins; the base of the wing is streaked with white: secondaries reddish brown, with the veins near the base white, the red spot close to the anal angle considerably larger than above. The head, thorax, and abdomen dark

brown, the abdomen banded with fine yellowish-white lines, the anal tuft yellow; the legs, underside of the thorax, and abdomen dark greyish white; antennæ dark brown.

Expanse 2 inches.

*Hab.* Bolivia (*Buckley, Mus. Druce*).

A very distinct species; in form it resembles *E. medama* from Ecuador.

*Eratina Hewitsoni*, sp. n.

*Male*.—Primaries black, partly crossed at the end of the cell by a curved whitish hyaline band that becomes lobed nearest the outer margin; the inner margin streaked with creamy white, the fringe dark brown: secondaries creamy white, shaded with black close to the base; the outer margin from the apex to the anal angle broadly banded with black; the fringe dark brown, with two white spots on the outer margin. Underside of the primaries rich reddish brown, the veins near the base yellow; a streak at the end of the cell and two streaks extending from the base pure white; the hyaline band is more distinct than on the upperside, reaching the costal margin; a submarginal dark yellow waved line extends from the costal margin near the apex to the anal angle; the fringe alternately white and reddish brown: secondaries creamy white, the base and outer margin reddish brown, the veins near the base yellow; a bright yellow submarginal line extends from the apex to the anal angle. The head and thorax dark brown; the abdomen pale yellowish brown, banded with fine black lines, the anal tuft yellow; antennæ black; the underside of the thorax, abdomen, and legs greyish white.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Ecuador, Sarayacu (*Buckley, Mus. Druce*).

*Eratina artemis*, sp. n.

*Female*.—Primaries brownish black, palest near the base; a rather broad yellowish-white band partly crosses the wing beyond the cell, but does not reach either margin; the fringe brown: secondaries black, with a large creamy-white spot in centre, the outer edge of which is in the form of a short broad tail, the fringe black and white. Underside: primaries deep reddish brown, becoming black on the inner margin; the veins near the base pale yellow; the white band crosses the wing from the costal margin to the inner margin near the anal angle; two fine submarginal, waved, yellow lines extend

from near the apex almost to the anal angle: secondaries, the middle part of the wing creamy white, the base, outer and inner margins deep reddish brown, the veins all yellow; two fine dark yellow submarginal lines extend from the apex round the outer margin to the anal angle; the fringe black and white. The head, antennæ, thorax, and abdomen black, the abdomen banded with fine yellow lines; the legs and the underside of the abdomen greyish white.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Colombia (*Staudinger, Mus. Druce*).

This species is allied to *E. Hewitsoni* from Ecuador, but differs very considerably on the underside and in the shape of the white markings on both wings.

*Eratina Buckleyi*, sp. n.

*Male*.—Primaries deep black; a pale primrose-yellow, rather broad, elongated spot beyond the cell, the veins near the base pale yellow; the fringe black: secondaries deep black, elongated into a broad tail on the outer margin; a large round pale primrose-yellow spot about the middle of the wing, not bordered with black on the inner margin; the fringe black, excepting a small spot on the outer margin and the point of the tail pale yellow. Underside of both wings dark brownish red, the markings the same as above; the veins at the base of both wings pale yellow; the fringe on the outer margin of the secondaries alternately black and yellow. The head, thorax, abdomen, and antennæ black, the abdomen banded with pale yellow; the legs, underside of the thorax, and abdomen yellowish white.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador, Sarayacu (*Buckley, Mus. Druce*).

A beautiful little species, very distinct from any other known to me.

*Eratina arocha*, sp. n.

*Male*.—Primaries dark brown, with a curved hyaline streak partly crossing the wing at the end of the cell; the fringe alternately brown and white: secondaries red, the outer margin narrowly edged with brown; the fringe alternately red and white. Underside: both wings reddish brown, the secondaries with a yellowish tinge on the outer margin: primaries crossed beyond the middle with a greyish-white band: secondaries crossed from the costal margin near the apex to the anal angle by a very fine waved white line, edged

on the outer side with dark red. The head, antennæ, thorax, abdomen, and legs dark brown, the abdomen banded with very fine yellowish lines.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador, Sarayacu, Chiguinda (*Buckley, Mus. Druce*).

The three male specimens before me do not show any variation; the female is unknown.

*Eratina meduthina*, sp. n.

*Male*.—Primaries dark brown, with two round hyaline spots beyond the middle, the first close to the costal margin, the second below, nearest the outer margin; the fringe brown: secondaries pale yellowish brown, the fringe the same colour. Underside: primaries and secondaries pale yellowish brown, primaries with the spots as above, secondaries crossed about the middle from the costal margin near the apex to the inner margin slightly above the anal angle by a very faint waved brown line. The head, thorax, abdomen, antennæ, and legs dark brown.

The female is almost identical with the male.

Expanse, ♂ ♀ 1 inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

This species is allied to *E. arocha*, from which it is at once distinguished by the two hyaline spots on the primaries and the very much paler colour of the secondaries, also by the very different underside.

*Eratina bosora*, sp. n.

*Female*.—Primaries dark brown, palest at the base, partly crossed from the costal margin beyond the middle by a band of four hyaline spots, the second and third spots the smallest, the fourth the largest, the fringe alternately brown and white; the costal margin is slightly reddish from the base to about the middle: secondaries dark brown from the base to about the middle, and broadly round the outer margin from the middle of the wing to anal angle bright red, the fringe reddish brown. Underside: primaries from the base to the band of spots blackish brown, the apical portion of the wing yellowish brown: secondaries pale brown, crossed from the costal margin to the anal angle with a rather wide band of the same colour, but considerably paler. The head, thorax, abdomen, antennæ, and legs dark brown.

Expanse 1 inch.

*Hab.* Interior of Colombia (*Wheeler, Mus. Druce*).

This species is allied to *E. arocha* from Ecuador.

*Eratina capua*, sp. n.

*Female*.—Primaries and secondaries deep black; a wide semihyaline whitish band crosses the wing beyond the middle, but does not reach either margin; the fringe black, excepting at the apex, where it is white: secondaries with a very fine submarginal white line, the fringe white. Underside: both wings very dark claret-colour, the markings as above, the veins of the secondaries white. The head, antennæ, thorax, abdomen, and legs black.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* South-east Brazil, St. Catharina (*Mus. Druce*).

This species is allied to *E. siliquata*, Guen.

*Eratina masura*, sp. n.

*Female*.—Primaries brown, greyish at the base, with a large elongated spot at the end of the cell: secondaries white, with the base and outer border broadly bordered with dark brown; the fringes of both wings alternately brown and white. Underside: primaries reddish brown, the veins at the base pale yellow; a wide white band crosses the wing beyond the middle from the costal margin to the anal angle, beyond which is a submarginal row of small yellow spots almost forming a waved line: secondaries white, the base and a large irregular-shaped spot at the anal angle reddish brown, the outer margin dark brown, with a submarginal yellow line extending from the apex to the anal angle; the fringe alternately brown and white. The head, antennæ, thorax, and abdomen dark brown, the abdomen banded with fine white lines; the legs greyish brown.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

A small species, not closely allied to any known to me.

*Eratina media*, sp. n.

*Female*.—Primaries black, with a rather wide, elongated, white spot at the end of the cell: secondaries black, with a large, central, white, round spot in the middle and extending to the inner margin; the fringes of both wings alternately white and black. Underside: primaries brownish black, the inner margin white from the base to near the anal angle; two bands partly cross the wing from the costal margin; the apex of the wing is irrorated with white scales: secondaries white, broadly bordered with dark brown, the base and the outer

margin thickly irrorated with yellow scales. The head, thorax, and abdomen black; antennæ black; the underside of the abdomen and legs greyish brown.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

This species is allied to *E. masura*, but it is very differently marked on the upper- and undersides.

*Eratina peloria*, sp. n.

*Female*.—Primaries black, slightly greyish at the base and along the inner margin; a rather wide white band at the end of the cell, but not reaching either margin; the fringe brown and grey: secondaries greyish brown, with a slight greenish shade, the outer margin edged with black, the fringe alternately grey and brown. Underside: primaries reddish brown, the white band extends to the costal margin and almost to the anal angle; a white spot in the middle of the cell and several small yellow dots near the apex: secondaries pale yellow, the outer margins broadly bordered with dark brown; the marginal line yellow; a rather wide, zigzag, submarginal, white line extends from the apex to the anal angle; a white streak in the cell and three below the cell between the veins. The head, thorax, abdomen, antennæ, and legs dark brown.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Interior of Colombia (*Wheeler, Mus. Druce*).

This species is very distinct from all others known to me.

*Eratina Wheeleri*, sp. n.

*Female*.—Primaries very dark brown, palest near the base; a very pale, almost white, band partly crosses the wing at the end of the cell, but does not reach either margin; the fringe alternately white and brown: secondaries dark brown, with a large oval-shaped, pale yellow, semihyaline spot below the cell; a reddish-brown spot at the anal angle; the veins at the base of the wing yellow; the fringe alternately yellow and brown. Underside: primaries dark reddish brown, the base to about the middle pale straw-colour, the veins near the base yellow, the band as above, but very much more distinct, and extending from the costal margin to the anal angle, where it becomes a fine line only; a pale yellow waved line partly crosses the wing near the apex: secondaries pale yellow, the base, inner and outer margin broadly bordered with dark brown; the veins all yellow; a bright red

streak extends partly round the outer margin from the anal angle; the fringe alternately yellow and dark brown. The head, thorax, antennæ, and legs brown, the collar yellow; the abdomen dark brown, banded with yellow.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Interior of Colombia (*Wheeler*); Antioquia (*Salmon, Mus. Druce*).

*Eratina artabates*, sp. n.

*Male*.—Primaries dark brown, greenish brown at the base, the veins white to about the middle of the wing; a narrow white band crosses the wing beyond the middle from the costal margin almost to the anal angle, but does not quite reach it; the fringe dark brown: secondaries greenish brown, the outer margin dark brown, the veins all white from the base to the inner side of the dark marginal brown band; a long red streak close to the anal angle; the fringe alternately white and brown. Underside: primaries reddish brown, the base and a wide band beyond the cell pale yellowish white; the veins at the base of the wing yellow; a waved submarginal yellow line extends from near the apex on the costal margin almost to the anal angle: secondaries reddish brown, all the veins and two bands crossing the wing pale yellowish white; a submarginal reddish line extends from the apex to the anal angle; the fringe alternately yellow and brown. The head, thorax, antennæ, and abdomen dark brown, the abdomen banded with fine yellow lines; the anus yellowish; the underside of the thorax and abdomen pale yellow; the legs dark brown.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Bolivia (*Buckley, Mus. Druce*).

This species is allied to *E. lineata*.

*Eratina faventia*, sp. n.

*Male*.—Primaries dark brown, crossed about the middle by a pale primrose-coloured band, which becomes wide and lobe-shaped near the anal angle; on the costal margin it is quite narrow; a subapical yellow streak touching the costal margin: secondaries pale primrose-colour, the base dusky brown, the outer margin from the apex to the anal angle broadly bordered with dark brown, much dentated on the inner edge; the fringe alternately yellow and brown. Underside: primaries yellowish brown, the primrose-coloured band as above, and a submarginal pale yellow band: secondaries very similar

to the upperside, but paler in colour, and with a row of brown spots crossing the middle of the wing. The head, antennæ, thorax, and abdomen dark brown, the abdomen banded with fine yellow lines; legs dark brown.

Female almost identical with the male.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

This species is allied to *E. Wheeleri* from Colombia.

### *Eratina Whitelyi*, sp. n.

*Male*.—Primaries black, the veins at the base white; a spot at the end of the cell, a round spot below near the anal angle, and two small spots on the costal margin near the apex all white: secondaries deep black, with a large central, almost round, creamy white spot about the middle of the wing, which extends to the inner margin; the fringe alternately white and black. Underside very similar to the upperside, but considerably browner in colour, the veins at the bases of both wings white: primaries with a white band, which crosses from the costal margin to the outer margin near the apex: secondaries with two streaks and a round spot close to the anal angle both white. The head, thorax, abdomen, antennæ, and legs black, the abdomen banded with narrow white lines.

The female is identical with the male.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* East Peru (*Whitely, Mus. Druce*).

### *Eratina necysia*, sp. n.

*Female*.—Primaries deep black, with a dark blue gloss; the cell, three spots beyond, and one elongated streak below the cell bluish hyaline white; three spots forming a short band close to the apex bluish hyaline white: secondaries bluish hyaline white, with the veins, the costal margin, and the outer margin deep black, glossed with dark blue. Underside: primaries the same as above, but with a reddish tinge: secondaries with the hyaline part as above, the dark parts being all of a rich lake-colour, the base of the wing chrome-yellow; a rather wide, marginal, silvery-white line extends from the apex to the anal angle. The head, thorax, antennæ, and abdomen bluish black; the collar white; the underside of the abdomen banded with white; the legs black.

Expanse  $1\frac{3}{4}$  inch.

*Hab.* Colombia, interior (*Mus. Druce*).

A very distinct species allied to *E. pohlita*, Feld. & Rog.

*Eratina hermæa*, sp. n.

*Female*.—Primaries deep black, the veins at the base, a narrow streak at the end of the cell, and part of the inner margin creamy white; the fringe black: secondaries semi-hyaline white, broadly bordered with deep black from the apex to the anal angle. Underside: primaries brownish black, with a reddish shade, the veins from the base to the middle pale yellowish white, the streak as above, but extending to the costal margin: secondaries as above, with a rather wide, submarginal, dark red line which extends from the apex to the anal angle. The head, thorax, and abdomen black; the collar and tegulæ yellowish white; the abdomen banded with white; antennæ and legs black.

Expanse  $1\frac{1}{2}$  inch.

*Hab.* Ecuador, Chiguinda (*Buckley, Mus. Druce*).

*Eratina tryphosa*, sp. n.

*Male*.—Primaries: the costal margin, apex, and outer margin broadly bordered with dark brown, the inner portion of the wing white; a large yellow spot close to the apex; the fringe dark brown: secondaries white, the base and outer half of the wing dark brown; the fringe brown. Underside: primaries as above, with a second yellow spot close to the anal angle: secondaries as above, with a marginal greyish line, which extends from the apex to the anal angle; a large yellow spot at the anal angle. The head, thorax, abdomen, antennæ, and legs dark brown.

Expanse  $1\frac{1}{4}$  inch.

*Hab.* Ecuador, Intij (*Buckley, Mus. Druce*).

This species is quite distinct from any known to me.

## BIBLIOGRAPHICAL NOTICE.

*Les Coquilles Marines des Côtes de France.* Par ARNOULD LOCARD.  
F. B. Baillièrre et Fils: Paris, 1891.

THIS work forms a companion volume to the 'Prodrome de Malacologie Française, Catalogue général des Mollusques vivants de France, Mollusques marins,' by the same author, and each may be regarded as supplementary to the other.

The 'Prodrome' contains a classified list of the marine mollusks of France, with more or less complete synonymy of the species and full